CLAIMS

What is claimed is :

1. A coating composition comprising

A) at least one hydroxy-functional (meth)acrylic copolymer having an OH value from 160 to 200 mg KOH/g and a weight average molecular weight Mw from 2,500 to 30,000 and

B) at least one polyisocyanate cross-linking agent;

wherein the hydroxy-functional (meth)acrylic copolymer A) is obtained by

AI) free-radically copolymerizing a monomer mixture comprising

a) at least one hydroxy functional free-radically copolymerizable olefinically unsaturated monomer,

b) at least one cycloaliphatic ester of a free-radically copolymerizable olefinically unsaturated carboxylic acid and

c) at least one additional free-radically copolymerizable olefinically unsaturated monomer which is different from component a) and b) and

AII) reacting at least part of the hydroxyl groups of the hydroxy-functional (meth)acrylic copolymer obtained in step AI) with

d) at least one lactone compound;

wherein the hydroxy-functional (meth)acrylic copolymer obtained in step AI) has a glass transition temperature Tg of at least 50°C and wherein said copolymer is free of epoxy-functional free-radically copolymerizable olefinically unsaturated monomers.

2. The coating composition according to claim 1, wherein the hydroxy-functional (meth)acrylic copolymer A) comprises 30-60 wt-% of component a), 15-40 wt-% of component b), 10-40 wt-% of component c) and 18-40 wt-% of component d), the proportions by weight of components a) to d) totaling 100 wt-%.

3. The coating compositions according to claim 1, wherein the hydroxy-functional (meth)acrylic copolymer A) has an OH value from 170-190 mg KOH/g, a weight average molecular weight Mw from 2,500 to 20,000.

4. The coating compositions according to claim 1, wherein the hydroxy-functional (meth)acrylic copolymer obtained in step AI) has an OH value from 170-280 mg KOH/g, a weight average molecular weight Mw from 2,000 to 20,000 and a glass transition temperature Tg from 60°C to 100°C.

5. The coating compositions according to claim 1, in which component a) comprises at least one hydroxyalkyl ester of (meth)acrylic acid.

6. The coating compositions according to claim 1, in which component b) comprises at least one compound selected from the group consisting of cyclohexyl (meth)acrylate, trimethylcyclohexyl (meth)acrylate, 4-tert. butylcyclohexyl (meth)acrylate, isobornyl (meth)acrylate.

7. The coating compositions according to claim 1, in which component c) comprises at least one vinyl aromatic hydrocarbon.

8. The coating composition according to claim 1, in which component d) is epsilon-caprolacton.

9. A process which comprises applying a multi-layer coating on a substrate using a coating composition according to claim 1 and curing said coating.

10. A process for multi-layer coating of substrates which comprises applying a top coat layer to a substrate pre-coated with one or more coating layers, wherein the top coat layer comprises of a color-and/or special effect-imparting base coat coating compound and a clear coat coating compound, and wherein the clear coating layer comprises the coating composition according to claim 1.

11. A process for multi-layer coating of substrates which comprises applying a top coat layer to a substrate pre-coated with one or more coating layers, wherein the top coat layer comprises of a pigmented one-layer top coat coating compound, and wherein the pigmented one-layer top coat coating layer comprises the coating composition according to claim 1.

12. The process according to claim 10, wherein the substrates are selected from the group consisting of automotive bodies and automotive body parts.

13. The process according to claim 11, wherein the substrates are selected from the group consisting of automotive bodies and automotive body parts.